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Title:	JP1140781A2: LIGHT AMPLIFIER
Derwent Title:	Photo-multiplying semiconductor device - has well layers multiplying light and barrier layers alternately superposed NoAbstract Dwg 1/1 [Derwent Record]
Country:	JP Japan
Kind:	A (See also: JP2800897B2)
Inventor:	KAYANE NAOKI; UOMI KAZUHISA; SAKANO SHINJI;
Assignee:	HITACHI LTD News, Profiles, Stocks and More about this company
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Abstract:	<p>PURPOSE: To increase a wavelength band and to decrease an output saturation by forming an active layer of a well layer having small band gap and a barrier layer having large band gap, and setting the thickness of the well layer to de Broglie wavelength or less of electron.</p> <p>CONSTITUTION: An active layer for amplifying a light is formed in a multiplex quantum well structure, and a plurality of barrier layers 4 each having large band gap and a plurality of well layers each having small band gap are alternately laminated. When the thickness of the layer 3 is reduced to de Broglie wavelength or less of electron, electrons in the well layer are enclosed in a two-dimensional manner. Accordingly, the energy distribution of the electron is narrowed, and a high gain is obtained in a low current concentration. Thus, the operating current density of an optical amplifier can be reduced. Further, when an N-type impurity is implanted to the well layer or the barrier layer, a wavelength band for obtaining a gain is widened, and since the slope of the gain-current characteristic is small, the saturation of the gain is small even with a strong incident light.</p> <p>COPYRIGHT: (C)1989,JPO&Japio</p>
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